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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,309	01/31/2002	Jeff D. Dillabough	VER-01	2551

23593 7590 05/12/2004

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DAMASCUS, MD 20872

EXAMINER

PHAN, RAYMOND NGAN

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 05/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/062,309

Applicant(s)

DILLABOUGH ET AL.

Examiner

Raymond Phan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Part III DETAILED ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-31 are pending.
2. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 2111.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
4. The following is a quotation of the first paragraph of 35 U.S.C. § 112:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as DROP bus comprises an in-band half-duplex channel (claims 10, 21, 30) and ADD bus comprises an in-band half duplex channel (claims 11, 22, 31)

The disclosure is non-enabling for claims 10-11, 21-22, and 30-31 because the limitations recited in the claims 10-11, 21-22, and 30-31 were merely hinted as possible modifications to the claimed invention and no circuit diagrams or suggestion were provided to make modifications as hinted. Therefore, undue

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experimentation is required and the disclosure does not enable a person skilled in the art to make and use the claimed invention.

Claim Objections

5. Claims 9, 20 are objected as following:

As per claim 9, claim 20, using the acronym, "...LVDS...", is not defined in the claim.

Claim Rejections - 35 USC § 112

6. Claims 10-11, 21-22, 30-31 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8, 10-19, 21-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants Admitted Prior Arts (AAPA hereinafter) in view of Sturm et al. (US No. 6,687,779).

In regard to claims 1, 12, 23, AAPA disclose a serial scaleable bandwidth interconnect bus for interconnection of physical layer and link layer devices, comprising: (a) an ADD Bus operative to receive signals from said link layer devices and direct them to said physical layer devices; and (b) a DROP Bus

operative to receive signals from said physical layer devices and direct them to said link layer devices (see figure 1, pages 6-7); wherein said serial scaleable bandwidth interconnect bus is capable of supporting a plurality of links (see figure 1, pages 6-7); and wherein, for one or more of said links, ADD Bus timing control information is conveyed from said physical layer to said link layer of said DROP Bus and independently of other ones of said links (see figure 9-11, pages 47). But AAPA do not specifically disclose the in-band channel. However Sturm et al. disclose the bi-directional serial link 60 (see col. 4, lines 16-64). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Sturm et al. within the system of AAPA because it would provide a scheme that can be used to transmit control signal from one parallel bus to a second parallel bus over a serial link.

In regard to claims 2, 13, 24, Sturm et al. disclose wherein said timing control information is 8B/10B encoded (see col. 5, lines 7-19). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Sturm et al. within the system of AAPA because it would provide a scheme that can be used to transmit control signal from one parallel bus to a second parallel bus over a serial link.

In regard to claims 3, 14, 25, AAPA disclose wherein said bus interface device supports fractional links (see figure 5, page 40).

In regard to claims 4, 15, 26, AAPA disclose wherein a bandwidth of each of said fractional links is an arbitrary rate up to a maximum of approximately 45 MB/s (see figure 4-5, page 40).

In regard to claims 5, 16, 27, AAPA disclose wherein said bus interface device supports T1s, E1s, TVT1.5s, TVT2s, DS3s, E3s or fractional links (see figure 1, pages 6-7).

In regard to claims 6, 17, 28, AAPA disclose wherein said bus interface device supports 336 T1s, 252 E1s, 336 TVT1.5s, 252 TVT2s, 12 DS3s, 12E3s or 12 fractional links (see figure 4-5, page 40).

In regard to claims 7, 18, even though the teaching of AAPA or Sturm et al. specifically disclose wherein said bus interface device is scaleable by increasing a serial interconnect rate in multiples of four, however one skilled in the art would have understood that they can choose to have the serial interconnect rate in multiple order to expand the system interconnect.

In regard to claims 8, 19, 29, AAPA disclose wherein said bus interface device interconnects asynchronous and synchronous physical and link layer devices (see figures 10-11, page 47).

In regard to claims 10-11, 21-22, 30-31, Sturm et al. disclose wherein said serial link comprises an in-band half-duplex channel for conveying control information between said physical layer and said link layer (see col. 4, lines 20-33). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Sturm et al. within the system of AAPA because it would provide a scheme that can be used to transmit control signal from one parallel bus to a second parallel bus over a serial link.

8. Claims 9 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Sturm et al. and further in view of Paschal (US No. 6,462,852).

AAPA and Sturm et al. teach the claimed subject matter as discussed above except the teaching of wherein said bus interface device is a LVDS interface. However Paschal disclose the low voltage differential signaling interface (see col. 4, lines 31-67). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Paschal within the system of AAPA and Sturm et al. because it would provide a far higher speeds in point-to-point links instead of physical bus.

Conclusion

9. All claims are rejected.

10. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

Dillabough et al. (US No. 6,584,521) disclose a scalable bandwidth interconnect for simultaneous transfer of mixed PDH clients.

Chow et al. (US No. 5,999,528) disclose communications system for receiving and transmitting data cells.

Scardamalia et al. (US No. 6,467,011) disclose a shared memory apparatus and method for multiprocessor systems.

Hake et al. (US No. 6,247,083) disclose a method and apparatus for bi-directionally transferring data between IEEE 1394 bus and a device to be controlled by a control signal transmitted via the bus.

Kim et al. (US No. 6,101,567) disclose a parallel backplane physical layer interface with scalable data bandwidth.

Elliot (US No. 5,751,724) discloses a demultiplexer for a multi-bitline bus.

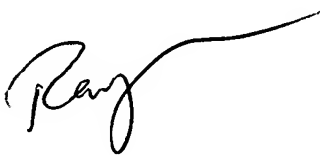
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (703) 306-2756. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (703) 305-9656 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

A handwritten signature in black ink, appearing to read 'Ray', with a long, sweeping horizontal line extending to the right.

Raymond Phan
5/8/04